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Colorado Department
of Public Health
and Environment

January 29, 2002

Max M. Howie, Jr.
Chief, Programs Evaluation, Records, and Information Services Branch
Division of Health Assessment and Consultation
ATSDR, Mailstop E-56
1600 Clifton Road, NE
Atlanta, GA 30333

Re: The Initial Release Public Health Assessment for Vasquez Boulevard and I-70, Denver, CO; EPA Facility ID CO0002259588 (December 26, 2001)

Dear Mr. Howie:

The Colorado Department of Public Health and Environment ("CDPHE") has received and reviewed the above-referenced document. We have made specific comments on several minor editorial issues as well as the following general issues: (a) characterization of CDPHE blood lead data and soil correlation analysis, (b) use of a regression equation derived from the eight intensively sampled properties to estimate maximum arsenic concentrations at all site properties, (c) characterization of soil pica behavior, and (d) recommendation for collection of additional soil lead data east of the study area.

In addition, ATSDR estimates that there are approximately 5,126 "housing units" within the VBI70 area (see page 3, "Demographic Data") which is a considerably higher number than EPA's estimate of approximately 4,000 residential properties within the VBI70 area. This discrepancy results in a significant difference in the estimate of the percent of homes that have been sampled to date. To avoid confusion, it would be helpful to explain or reconcile the discrepancy in the estimated number of properties being used by the two federal agencies.

Our specific comments are attached. Please feel free to contact me at (303) 602-3395 if you have any questions.

Sincerely,

Barbara O'Grady

Barbara O'Grady
State Project Manager

CC: VBI70 Working Group

State of Colorado Comments
Initial Release Vasquez Boulevard and I-70 Denver, Denver County, Colorado EPA Facility ID: CO0002259588 (December 26, 2001)

Specific Comments:

1. Page *iii*, "Summary" section, 1st paragraph- It appears that the population total and number of housing units needs to be updated in the summary section of the report, as they are not consistent with data shown on page 3 of the report.

2. Page *iii*, "Summary" section, 3rd paragraph – The PHA should present the full range of available data when discussing the prevalence of soil pica behavior anticipated in the VBI70 area. For instance, some of the most recent, thorough work available was reported in Calabrese et al., 2000. This work is referenced later in the report but is not mentioned in the discussion in this section of the document. This study found no evidence of pica behavior in the children studied. This work may be pertinent to the VBI70 site because it is one of the few studies available from the western U.S. These findings should be reflected in the estimates of pica prevalence presented here and in other sections of the report as these data add to the uncertainty in trying to quantify exposure and potential health effects due to pica behavior.

3. Page *iv*, "ATSDR Findings for Arsenic in Soil", paragraph 2
Reference is made to an approximate 100 properties where the increased risk of cancer is unacceptable. In light of the preferred alternative presented by EPA to the Working Group on January 17, 2002, that figure needs to be revised to reflect the number of residences that will be cleaned up at 128 ppm.

4. Page *v*, "ATSDR Findings for Lead in Soil" – (a) The characterization of the state blood lead data presented in various sections of the PHA should be expanded to include conclusions from the correlation analysis presented in EPA's risk assessment. While we agree that the available data are not adequate to fully characterize the relationships between soil and blood lead levels at the site, the analysis presented in the risk assessment provides reasonably good evidence that it is not the only source of lead exposure for the children tested and may not contribute significantly to lead exposure for these children. In addition, the analysis indicates that blood lead concentrations in children outside the VBI70 area are similar to levels in children residing inside VBI70, which would indicate an important contribution from other lead sources, such as paint. It would be helpful to summarize these data in the PHA to more fully characterize the available data; (b) need to add the word "due" in the 3rd paragraph, second to last sentence, before the bullet items at the bottom of the page (i.e., "... blood lead levels in children are most likely **due** to the result of exposure to lead from multiple sources..."

5. Page 8 – There are several editorial errors in the 2nd bullet, "Phase III Sampling".

6. Page 9, Footnote 8 – Discussion of background concentrations for arsenic – Footnote 8 appears to present a counter argument for why the background soil arsenic concentration estimates for the Globe site should not be used for the VBI70 site. However, we are not aware of any working group members, including the state, who have proposed using the Globe estimate to represent background soil concentrations in VBI70. We do however disagree with several statements made in this footnote. In attempting to establish background comparison values, the goal from a regulatory perspective is usually to establish concentration levels that would be typical in the absence of specific point-source pollution (such as a smelter). In an urban industrialized area it is expected that background would be impacted (increased) by other local pollution sources. Therefore, inclusion of other historical sources doesn't necessarily mean the data aren't reliable for establishing a site-specific background concentration. Also, we do not agree that the presence of "elevated" arsenic samples both off and on-site indicates the estimated value for background is not reliable. Such variability would in fact be anticipated in a mixed industrial setting. Analysis of distribution of the data is a much more robust assessment than simple review of individual sample results.

7. Page 10, Table 1 – (a) See "General Comments" above regarding the estimated number of site properties shown in Table 1; (b) there doesn't appear to be a Table 2 included in the report.

8. Pages 11 & 12, estimate of maximum arsenic soil concentrations (see Graph 1 and Table 3) – Table 3 displays estimated maximum arsenic concentrations for different ranges of soil concentrations based on the regression equation displayed in Graph 1. This regression line is derived from data collected from the eight intensively sampled properties only. Alternate approaches using additional available data, such as the 119 properties where grab samples were collected as well as 10-point composite samples, would be preferable and better represent the full range of data across the site.

9. Page 13, "Arsenic in the Northeast Park Hill neighborhood" – (a) need an editorial change in the last line of the 1st paragraph (should read "...property **is** shown in Table 4."); (b) would recommend indicating in the title for Table 4 that the values shown represent **maximum** arsenic levels; (c) consider using "location" instead of "address" in the table.

10. Page 21 "Soil Pica" – Worker exposure was not included as an exposure pathway at VBI70. CDPHE expressed concern about eliminating this pathway (in our comments on the Baseline Risk Assessment) based on results of soil sampling at commercial/industrial properties in the vicinity of the Globe plant, given the uncertainty of a common source of arsenic for these two areas.

11. Pages 23 and 24 "Sediments" and "Surface Water" – footnotes 13 and 14. CDPHE and Asarco, Inc. conducted studies of South Platte River Surface water and sediments as part of their Joint Study Remedial Investigation Report (Volume 1, September 20, 1988, Section 5). If we can help you with access to that report, please let us know.

12. Page 48, "Possible Health Effects from Exposures to Lead" – The third paragraph on page 48 is a very confusing insert into an otherwise excellent discussion of lead issues at the site. The first sentence in this paragraph ("Studies by other researchers have shown that about 30 percent of blood lead in children comes from lead in soil.") seems inappropriate to the discussion since this statement must be very concentration-dependent (and dependent on the presence of lead in various media), yet no information is provided to put this statement into context for the VBI70 site. In addition, the rest of this paragraph needs to be revised to make clear that the estimate of the range of blood lead levels associated with a soil lead concentration of 195 ppm is based on VBI70 site-specific inputs to the IEUBK model. This example was given in EPA's risk assessment to demonstrate a plausible range of blood lead levels associated with what was assumed to be the VBI70 site-specific urban background concentration for lead (195 ppm).

13. Page 57, "Arsenic in Hair" – CDPHE does not agree with the statement that an arsenic concentration of 0.41 ppm in hair "does not indicate unusually high exposures". As summarized in the 1999 NRC review of arsenic in drinking water, concentrations of arsenic in hair for people with no known arsenic exposure typically range from 0.02-0.2 mg/kg. A similar range of typical values has been reported for U.S. populations by various researchers including the CDC.

14. Page 58, 2nd paragraph, 1st sentence – This statement from the 1991 CDC guidelines which considers laboratory methods to be inaccurate in the 10-14 ug/dL range is outdated for current laboratory methods with detection limits typically in the 1-2 ug/dL range.

15. Page 63, "Lead contamination in the VBI70 site", 3rd paragraph – See specific comment 3 above regarding the characterization of the CDPHE blood lead data.

16. Page 65, Recommendations 6 and 7 - Data presented in the PHA don't seem to support the recommendation for additional sampling of soil lead to the east and southeast of the existing study area. Figures 10 & 11 show the spatial distribution of lead increasing to the west and southwest, but declining to the east. The recommendation for additional arsenic sampling, however, does seem appropriate.

17. Page 66, Recommendation 8 - ATSDR may want to refer to the Statement of Work (SOW) for VBI70 OU2. Additional sediment sampling may be performed as part of the Phase 1 Remedial Investigation for OU2. (SOW page 11, 3.2.4

Sediment Investigations). If indicated, additional samples may be taken in Phase 2 (SOW page 12, 3.3.5 Sediment Investigations).

18. Page 67 – See specific comment 3 above regarding the characterization of the CDPHE blood lead data.

19. Page 68, 1st sentence – See specific comment 11 above regarding the reliability of laboratory methods.

20. Figure 9 – The Sand Creek Industrial Site is listed twice for NPL designation (blue dot). Is one of the dots really Chemical Sales?